

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
30 June 2005 (30.06.2005)

PCT

(10) International Publication Number
WO 2005/059111 A2

(51) International Patent Classification⁷: C12N Brook, NY 11790 (US). GROLLMAN, Arthur [US/US]; 14 Childs Lane, Setauket, NY 11733 (US).

(21) International Application Number:

PCT/US2004/042504

(74) Agent: WHITE, John, P.; Cooper & Dunham LLP, 1185 Avenue of the Americas, New York, NY 10036 (US).

(22) International Filing Date:

17 December 2004 (17.12.2004)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/530,555 17 December 2003 (17.12.2003) US

(71) Applicants (for all designated States except US): THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK [US/US]; West 116th Street and Broadway, New York, NY 10027 (US). THE RESEARCH FOUNDATION OF STATE UNIVERSITY OF NEW YORK [US/US]; Office of Technology Licensing and Industry Relations N5002 Melville Library, Stony Brook, NY 11794-3369 (US).

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): BRINK, Peter, R. [US/US]; 101 Dyke Road, Setauket, NY 11733 (US). ROSEN, Michael, R. [US/US]; 25 East 86th Street, New York, NY 10028 (US). ROBINSON, Richard, B. [US/US]; 67 Roosevelt Street, Cresskill, NJ 07626 (US). COHEN, Ira, S. [US/US]; 23 Hawks Nest Road, Stony

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/059111 A2

(54) Title: DELIVERY OF DNA OR RNA VIA GAP JUNCTIONS FROM HOST CELLS TO TARGET CELLS AND A CELL-BASED DELIVERY SYSTEM FOR ANTISENSE OR siRNA

(57) Abstract: A method of delivering an oligonucleotide or a plasmid expressing an oligonucleotide into a target cell comprises introducing an oligonucleotide into a donor cell, particularly a stem cell, and contacting the target cell with the donor cell under conditions permitting the donor cell to form a gap junction with the target cell, whereby the oligonucleotide or a product of the oligonucleotide is delivered into the target cell from the donor cell.